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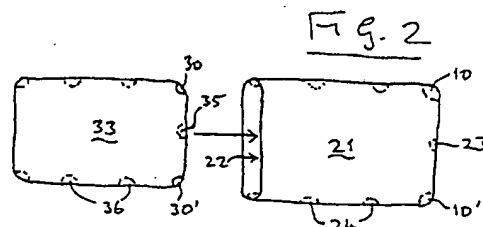
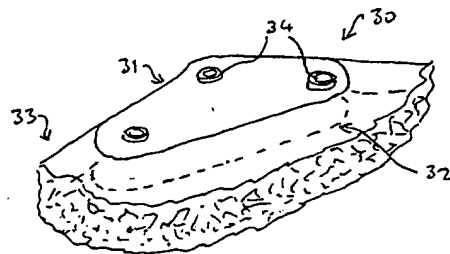
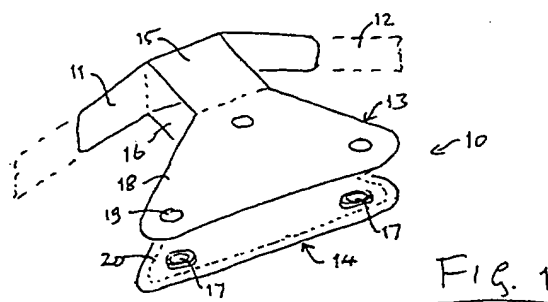
(58) Field of Search

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Other: Online: WPI, EPODOC, JAPIO

(54) Abstract Title

**Securing duvets inside duvet covers**

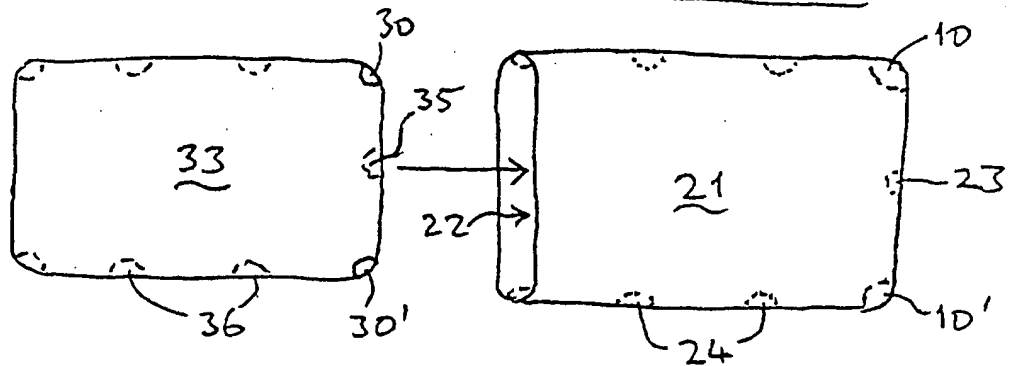
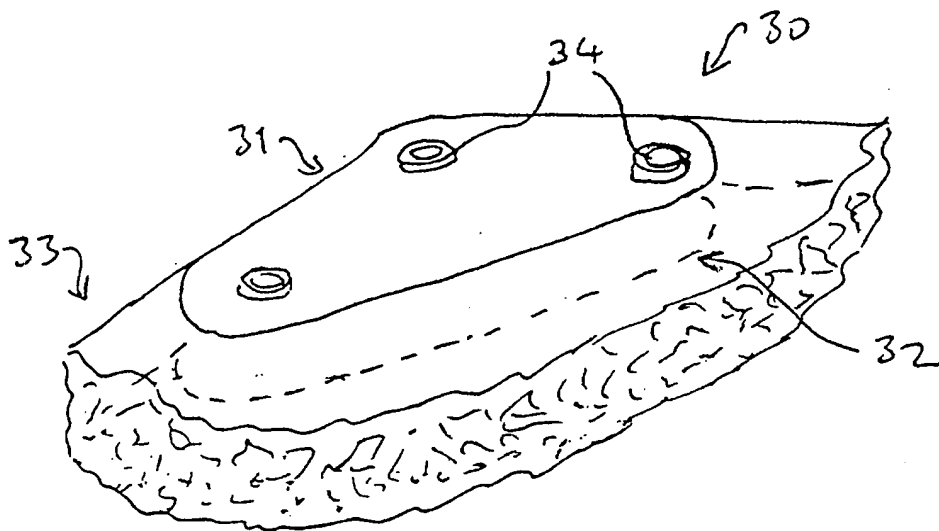
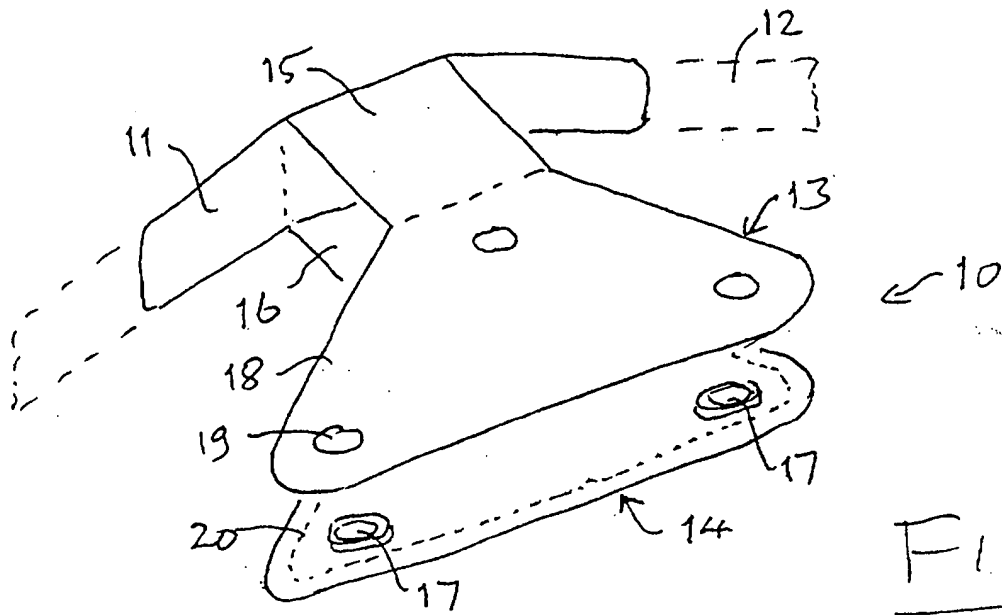
(57) A plurality of pairs of attachment elements 10, 30 attach a duvet 33 to the inside of a duvet cover 21 at its closed end. Further pairs may be arranged along the sides as shown. The attachment elements may be press fasteners fitted to an existing duvet and cover, or stud and socket connectors (Figs 3 and 4) with the socket built into the duvet. The attachment element 30 comprises two triangular shaped components 31, 32 on opposite faces of the duvet, each carrying three press studs 34. The attachment element 10 is attached to the inside of the duvet cover and comprises a backing strip 11 and two triangular shaped components 13, 14 attached to it by elastic strips 15, 16 and carrying sets of press studs 17, 19 which cooperate with the press studs 34. In Fig 3, a square head (44) on the stud 40 fits through a square hole (56) in the socket and is then rotated. Disengagement is prevented by a spring loaded piston (55). In Fig 4, spring loaded wedges (64) on the stud engage in recesses in the socket.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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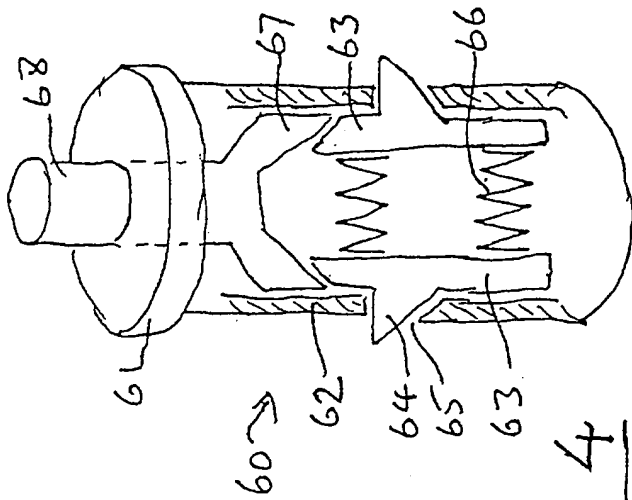


FIG. 4

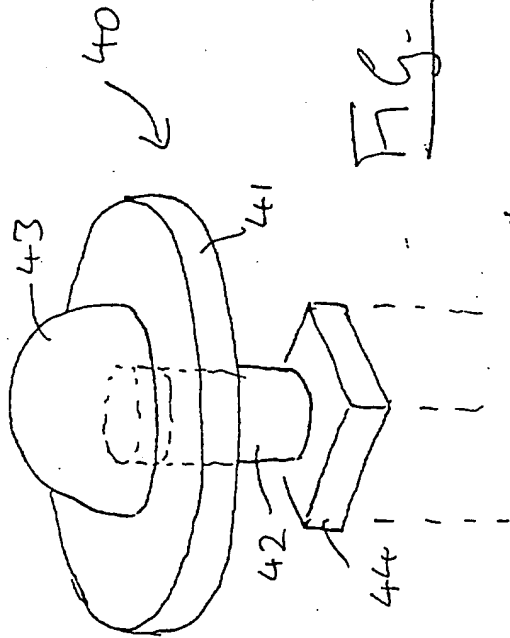
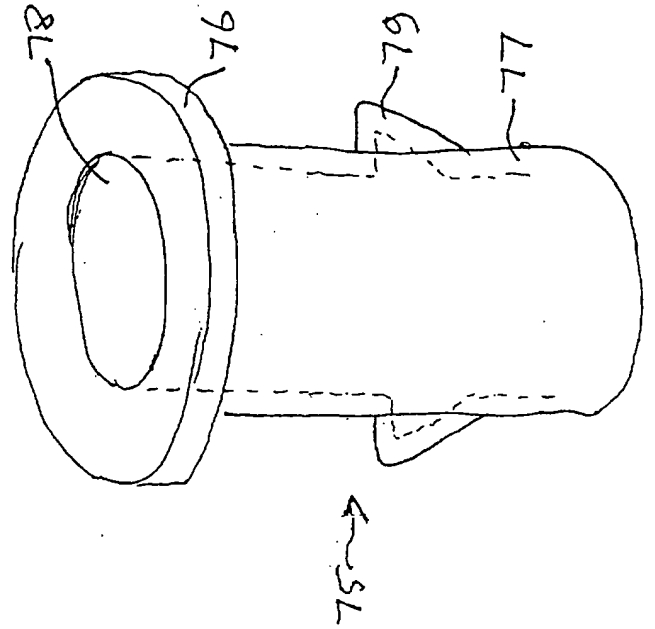
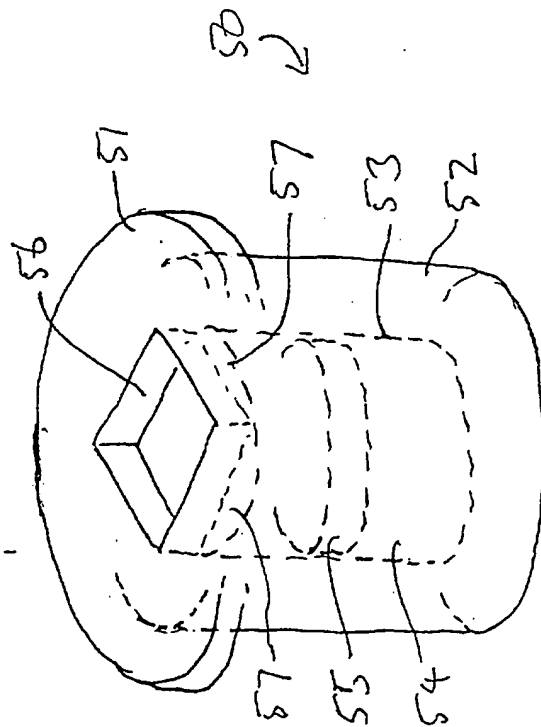


FIG. 3



## Duvets and Duvet Covers

5           The present invention relates to duvets and duvet covers.

          A duvet is a quilt or the like filled with insulating material such as down and used as the upper covering on a bed, in place of sheets, blankets, and/or an eiderdown. It normally comprises an inner body which contains the insulating  
10   material and an outer covering or bag into which the inner body can be placed. The outer covering or bag typically has fastening means, such as a row of buttons, along its open end, to hold the inner body in, and can readily be removed for washing.

15           A duvet is typically about 2 m long by 1 to 1.5 m wide. It is generally fairly easy to remove the covering from the inner body; but re-inserting the inner body into the bag can be somewhat frustrating, in view of the relatively large size of the duvet (as compared to things like cushions and pillows).

20           The general object of the present invention is to alleviate this problem.

          According to the invention there is provided duvet attachment means for attaching a duvet body to the inside of a duvet cover comprising a plurality of pairs of attachment elements, the first element of each pair being secured inside  
25   the duvet cover at its closed end and the second element of each pair being secured to the end of the inner duvet body.

          There are preferably two pairs of attachment elements, one for each of the closed end corners of the duvet. However, further pairs of attachment elements  
30   may be provided along the edge between those two corners and/or a short distance

down the sides from those two corners. Yet further pairs of attachment means may be provided along the open end if desired.

The present invention thus results in a duvet in which the inner body is attached to the outer cover at the inside of the bottom end of the cover. This results in the inner body remaining in place in the cover when the duvet is in use. To remove the inner body from the cover, the cover is preferably peeled back from the inner body until the attachment means are accessible; the inner body is then detached from the cover. To reassemble the duvet, this process may be reversed (starting with the cover inside-out); alternatively, the cover may be concertinaed, the end of the inner body placed in it and attached to it, and the cover then stretched over the inner body.

The attachment elements may be external to, or attached to the surface of, the duvet and duvet cover; as such, they are therefore well adapted to being fitted to an existing duvet and duvet cover.

Alternatively, the first element of each attachment means may comprise a rod-like component and the second element comprise a tube-like component for receiving the rod-like component. The second element can conveniently be built into the duvet bag. Preferably the rod-like component is releasable from its outer end, so that the duvet bag may be released from the cover without having to reach inside the cover.

Further features of the invention will become apparent from the following description of preferred embodiments thereof, given by way of example and with reference to the drawings, in which:

Fig. 1 is a simplified view of a pair of attachment elements;

Fig. 2 is a simplified view of a duvet inner body and cover using the attachment elements;

Fig. 3 is a simplified view of a second pair of attachment elements; and

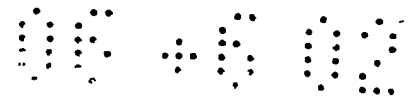


Fig. 4 is a simplified view, partially cut away, of a third pair of attachment elements.

Referring to Fig. 1, the pair of attachment elements comprise a first element 10 attached to the duvet bag and a second element 30 attached to the duvet inner body. Considering first the element 10, this includes a back strip 11 which is shaped to fit against the seam of a duvet cover at one of the inner end angles; the seam is shown in broken lines as 12. The back strip is sewn to the inner seam of the duvet cover. Two approximately triangular components 13 and 14 are attached to the back strip 11 by respective elastic strips 15 and 16. The strip 11 may be made of flexible or woven plastics material, with its corners rounded; components 13 and 14 may comprise relatively stiff plastics material.

The two components 13 and 14 are similar, and oriented to face each other. Component 14 has attached to it three press stud devices 17, arranged at the corners of the component; component 13 has three similar press stud devices, facing component 14. Component 13 has a foam-lined backing 18 on its outer surface, carrying three spots 19 which indicate the positions of its press studs; component 14 has a similar backing. The backings may extend over the edges of the components to the position shown by the broken line 20 on component 14.

Considering now element 30, this consists of two components 31 and 32 which are attached to the upper and lower sides of the duvet inner bag or body 33 at a corner of the bag. These components may be connected, or may be separated by the thickness of the duvet bag at its corner. The components are triangular in shape, broadly matching the components 13 and 14, and are sewn to the duvet bag. Component 31 has three press studs 34 attached to it at its corners; components 32 similarly has three press studs attached to it. The components 31 and 32 may comprise relatively stiff plastics material; their edges may be protected by padding (not shown).

Fig. 2 shows the duvet inner bag 33 adjacent to the duvet cover 21. The inner bag 33 is inserted into the open mouth 22 of the cover 21. The cover 21 has two attachment elements 10 and 10' at its inner corners; the inner bag 33 has two attachment elements 30 and 30' at the corners which are to be inserted first into the  
5 cover 21.

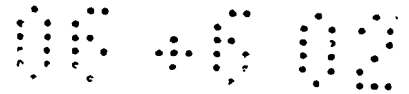
In use, the corner of the duvet inner bag 33 is introduced between the two components 13 and 14 at the inner corner of the duvet cover. Component 13 is then attached to component 31 by pressing the press studs on these two  
10 components together; the spots 19 indicate where to press to exert the maximum force on the press studs. Component 14 is similarly attached to component 32. The other corner of the inner bag is then similarly secured to the other inner corner of the duvet cover.

15 It will be realized that the number of press studs on the components 13, 14, 31, and 32 can be varied, eg to two or even one. Further, other engagement means such as hook and eye material can be used in place of press studs.

If desired, the elastic strips 15 and 16 may be removably attached to the  
20 backing strip 11, eg by means of small zips, buttons, press studs, or the like. This will enable the main body of the attachment 10 to be removed from the duvet cover for washing purposes.

The backing strip 11 is shown as vertical, which is convenient if the seam  
25 around the duvet cover is vertical as shown at 12. It will however be realized that the backing strip can be horizontal, in the form of a flat L; this will be more convenient if the seam around the duvet cover has a portion which protrudes into the cover.

30 Also, as shown in Fig. 2, additional fastening elements 23 may be provided along the inner end of the duvet cover 21 co-operating with corresponding



elements 35 along the bottom edge of the duvet inner bag 33. Further elements 24 and 36 may be provided along the sides of the cover and inner bag if desired.

Fig. 3 shows a second pair of attachment elements, comprising a first  
5 element 40 attached to the duvet bag and a second element 50 attached to the duvet inner body. Considering first the element 40, this includes a flange 41 which is attached to the corner of the duvet bag and has a shaft 42 mounted in it. The shaft 42 has a button 43 attached at its outer end, ie on the outside of the duvet bag, and a square key element 44 mounted on its inner end, ie inside the duvet  
10 bag.

Turning now to the element 50, this includes a flange 51 which is attached to the corner of the duvet bag and a body 52 which is contained within the duvet bag. The body 52 has a cylindrical bore 53 which opens through the flange 51 via  
15 a square hole 56. The diagonal of the hole 56 matches the diameter of the bore 53, so that the hole 56 forms overhangs 57 where it meets the cylindrical bore 53.

To use these attachment means, the duvet bag is inserted into the duvet cover, to bring the attachment elements 40 and 50 adjacent to each other. The  
20 user grasps the corner of the duvet bag containing the element 50 in one hand (possibly through the enclosing duvet cover), and the button 43 of element 40 directly in the other hand. The user then pushes the key element 44 against the flange 51, and manoeuvres it until it engages with the hole 56. The user then pushes the key element 44 through the hole into the bore 53, turns it through  
25 approximately 45°, and releases the button 43.

Preferably a circular piston 55 is mounted in the bore 53, and a spring (not shown) is mounted in the lower end 54 of the bore 53. When the elements 40 and 50 are engaged together, the spring pushes against the key element 44 via the  
30 piston 55, so holding it in position.



To release the two elements, the user presses down again on the button 43 and turns it through approximately 45° again, until it can be pulled clear of the element 50.

5        The outer face of the flange 51 may have a conical collar (not shown) formed thereon, to guide the key element 44 into alignment with the hole 56. The upper face of the key element 44 and the shoulders 57 may be ribbed or otherwise formed to engage with each other in such a way as to resist accidental turning of the key element 44.

10

Fig. 4 shows a third pair of attachment elements. The first element 60 has a flange 61 attached to the duvet cover and with a hollow cylindrical element 62 projecting from it into the cover. Two elements 63 are contained within the cylinder 62, and have wings 64 which engage in slots 65 in the sides of the cylinder 62 as shown. Spring means 66 between the elements 63 urge the wings 15 64 to project through the slots 65. A button 68 carries a shaft passing through the flange 61 and ending in a pair of angled arms 67 which engage with the upper ends of the elements 63.

20        Turning to the second element 75, this comprises a flange 76 attached to the corner of the duvet bag and having a hollow cylinder 77 mounted thereon which is contained within the duvet bag. The cylinder 77 has hollow projections 79.

To use the attachment means, the duvet bag is inserted into the duvet cover, 25 to bring the attachment elements 60 and 75 adjacent to each other. The user grasps the corner of the duvet bag containing the element 75 in one hand (possibly through the enclosing duvet cover), and the element 60 directly in the other hand. The user then pushes the cylinder 62 firmly into the cylinder 77. This forces the wings 64 of the elements 63 inwardly, as they enter the cylinder 77. The user 30 then manoeuvres the element 60 relative to the element 75 until the wings 64 engage with the projections 79 and spring outwardly to engage with those

projections, thus holding the corner of the duvet bag in engagement with the inner corner of the duvet cover.

To release the two elements from each other, the user presses down on the  
5 button 68. This forces the arms 67 down into the cylinder 62, so forcing the  
elements 63 inwardly. This disengages the wings 64 from the projections 79 and  
releases the two elements 60 and 75 from each other, so allowing them to be  
drawn apart and disengaged.

10 The inner face of flange 61 and the outer face of the flange 76 may be  
shaped so as to guide the two elements 60 and 75 into the correct orientation for  
the wings 64 to engage with the projections 79. Also, a larger disc (not shown) or  
enlargement of flange 61 may be mounted above that flange, so that the user can  
grasp that disc at the same time as pressing down the button 68, so that they can  
15 more easily pull the element 60 away from element 75 when disengaging the two  
elements.

It is of course necessary to ensure that the two elements 63 can always  
return to the position shown in Fig. 4. This can be achieved by limiting the extent  
20 to which they can travel downwards or inwards toward each other, so that the  
outer points of the wings 64 remain in the slots 65 and do not pass below the  
bottom ends of the slots and fully into the interior of the cylinder 62.  
Alternatively, a piston and spring, similar to the piston 55 and the spring in the  
space 54 in the Fig. 2 embodiment, may be provided at the bottom end of the  
25 cylinder 62.

With both the embodiments of Figs. 3 and 4, the engagement and release of  
the two engagement elements is controlled primarily from outside the duvet cover.  
The user may however prefer to turn or roll the duvet cover inside out and attach it  
30 to the duvet bag, and then unroll the duvet cover back over the duvet bag. In this  
situation, it is desirable for the manipulation to be performed primarily between

the duvet bag and the duvet cover. For this, a further form of the present attachment means is desirable.

The Fig. 3 structure can easily be modified for this purpose. For this, the first element 40 is made as a unitary element, ie with the stem 42 and key element 43 fixed to the flange 41; the button 43 can be made simply as part of the flange 41. The second element 50 includes a rotatable disc mounted above the flange 51, and provided with a square aperture matching the aperture 56. To engage the two elements 40 and 50, the rotatable disc is rotated to align its aperture with aperture 56, and the key element 44 inserted; the rotatable disc is then given a 45° turn to lock the two elements 40 and 50 together. To release the duvet bag from the duvet cover, the process is reversed.

As before, the outer face of the rotatable disc may have a conical collar (not shown) formed thereon, to guide the key element 44 into alignment with the hole in the disc. Similarly, the lower face of the rotatable disc and the upper face of the flange 51 may be ribbed or otherwise formed to engage with each other in such a way as to resist accidental turning of the key element 44.

The rotatable disc is rotatable relative to the rest of the element 50, but if desired, the rotatable disc may be fixed to the corner of the duvet bag, with the rest of the element 50 being rotatable inside the duvet bag.

As in the embodiments of Figs. 1 and 2, additional fastening elements may be provided along the inner end of the duvet cover co-operating with corresponding elements along the bottom edge of the duvet inner bag. Further similar pairs of elements may be provided along the sides of the cover and inner bag if desired.

## Claims

5     1     Duvet attachment means for attaching a duvet body to the inside of a duvet cover comprising a plurality of pairs of attachment elements, the first element of each pair being secured inside the duvet cover at its closed end and the second element of each pair being secured to the end of the inner duvet body.

10    2     Duvet attachment means according to claim 1 wherein the attachment elements are external to, or attached to the surface of, the duvet and duvet cover.

3     Duvet attachment means according to claim 1 wherein the first element of each attachment means comprises a rod-like component and the second element  
15    comprise a tube-like component for receiving the rod-like component.

4     Duvet attachment means according to claim 3 wherein the second element is built into the duvet bag.

20    5     Duvet attachment means according to either of claims 3 and 4 wherein the rod-like component is releasable from its outer end, so that the duvet bag may be released from the cover without having to reach inside the cover.

6     Duvet attachment means according to any previous claim comprising two  
25    pairs of attachment elements, one for each of the closed end corners of the duvet.

7     Duvet attachment means according to claim 6 including further pairs of attachment elements along the edge between those two corners, a short distance down the sides from those two corners, and/or along the open end.

8 Duvet attachment means substantially as herein described with reference to the drawings.

9 A duvet including attachment means according to any previous claim.

5

10 Any feature of novelty or combination thereof within the meaning of Article 4H of the International Convention (Paris Convention).



INVESTOR IN PEOPLE

Application No: GB 0212788.4  
Claims searched: 1-9

Examiner: Bridie Collier  
Date of search: 6 November 2002

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.T):

Int Cl (Ed.7): A47G9/02

Other: Online: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	EP 1159901 A1 (YANG) See tags 50 with hook & loop pads and studs	1,2,6,7,9
X	BE 874541 A (MANTA) See ribbons and eyes	1,2,6,7,9
X	DE 19812907 A (SAHINOGLU) See whole document	1,2,6,7,9
A	DE 19520280 A (SPIELBERGER)	
X	US 6032308 A (CHUANG) See whole document	1,2,6,7,9
A	US 5400478 A (LEVINSOHN) See Fig 5	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
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